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Technology Implications for Net Centric Operations
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Industry Views

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Problem Statement

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Warfighting operations currently rely on many stove-piped applications and databases

- **To enable NCO requirements exist for:**
  - Integration of available information for Joint Command of aerospace, land, and sea power
  - More efficient synchronization of tasking in the battle space
  - Greater speed of Command and Control
  - Automation of knowledge generation, filtering, and refinement
  - Increasing lethality, survivability and responsiveness
  - Definitive infrastructure migration paths

Common Operating/Tactical Picture requires transparent and consistent fusion of data, assets and displays

- **To enable NCO requirements exist for:**
  - Cross-cue & dynamic re-tasking of Joint Theater and TENCAP assets and generate greater user productivity
  - Unified schema that provide view of the battle space tailored to Component Commanders needs
  - Seamless collaboration among multiple decentralized user communities within an end-to-end Enterprise Architecture

Collaboration Application Areas

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- Distributed, secure collaborative processes among heterogeneous users and environments
- Contextual (e.g., role-based, situation-based) interpretation, filtering and integration of information
- Multi-modal, multi-language interfaces, localization of information
- Heterogeneous multi-way (one-to-many, many-to-many) conferencing
- Adaptive MLS information access and sharing both at the information element level, user level and Community of Interest (COI) level
- Automated sanitization of (fused) information crossing security boundaries
- Automated conditioning of (shared) information for low-date rate collaborators
- Near real-time dissemination of coordinated changes in tasking (retargeting, weaponeering, maneuvers and fires)

NCO - Key Building Blocks

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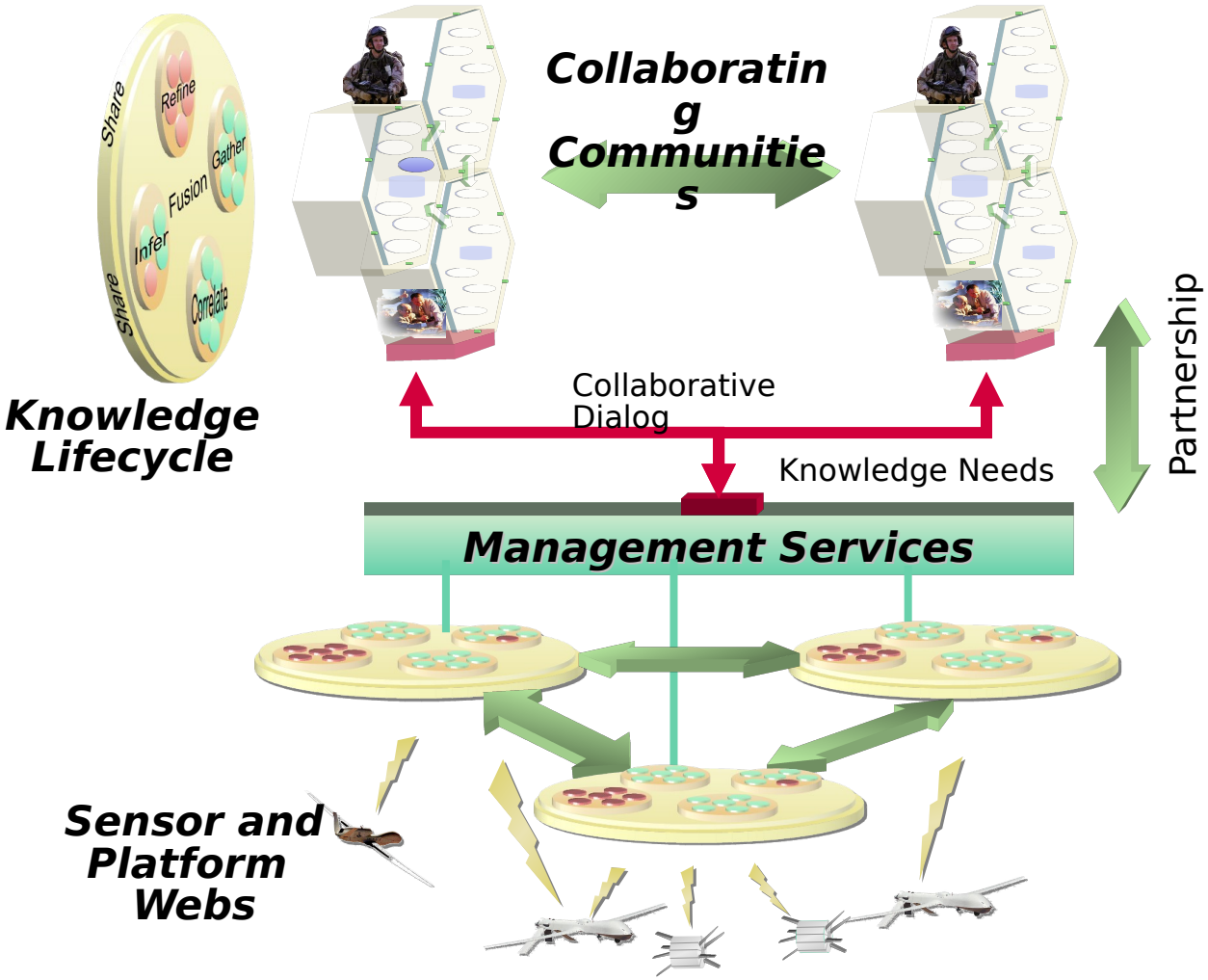

Collaborative, Integrated and Dynamically Responsive Enterprise

NCO Enabler - Resource Center Utility

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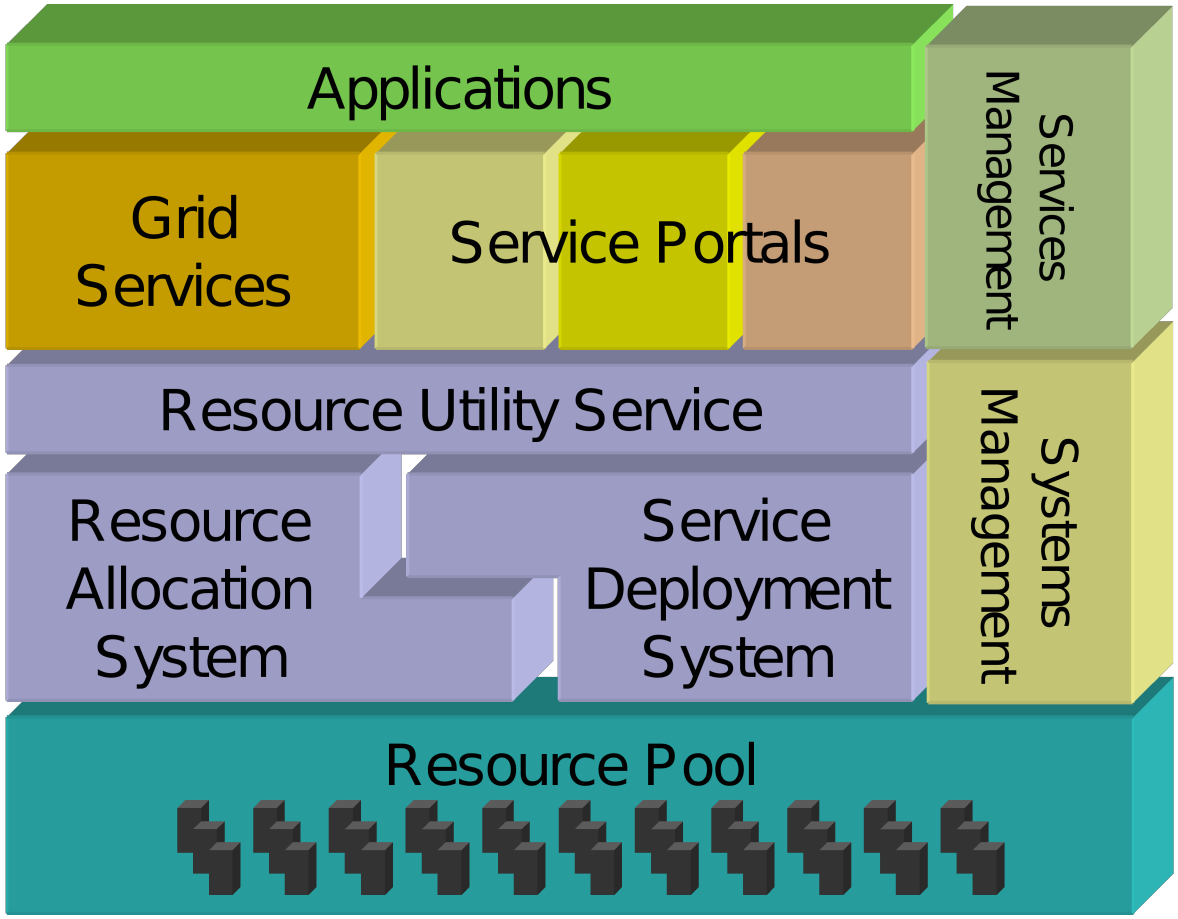

HP version

Application Services Model – Coupling to the GIG

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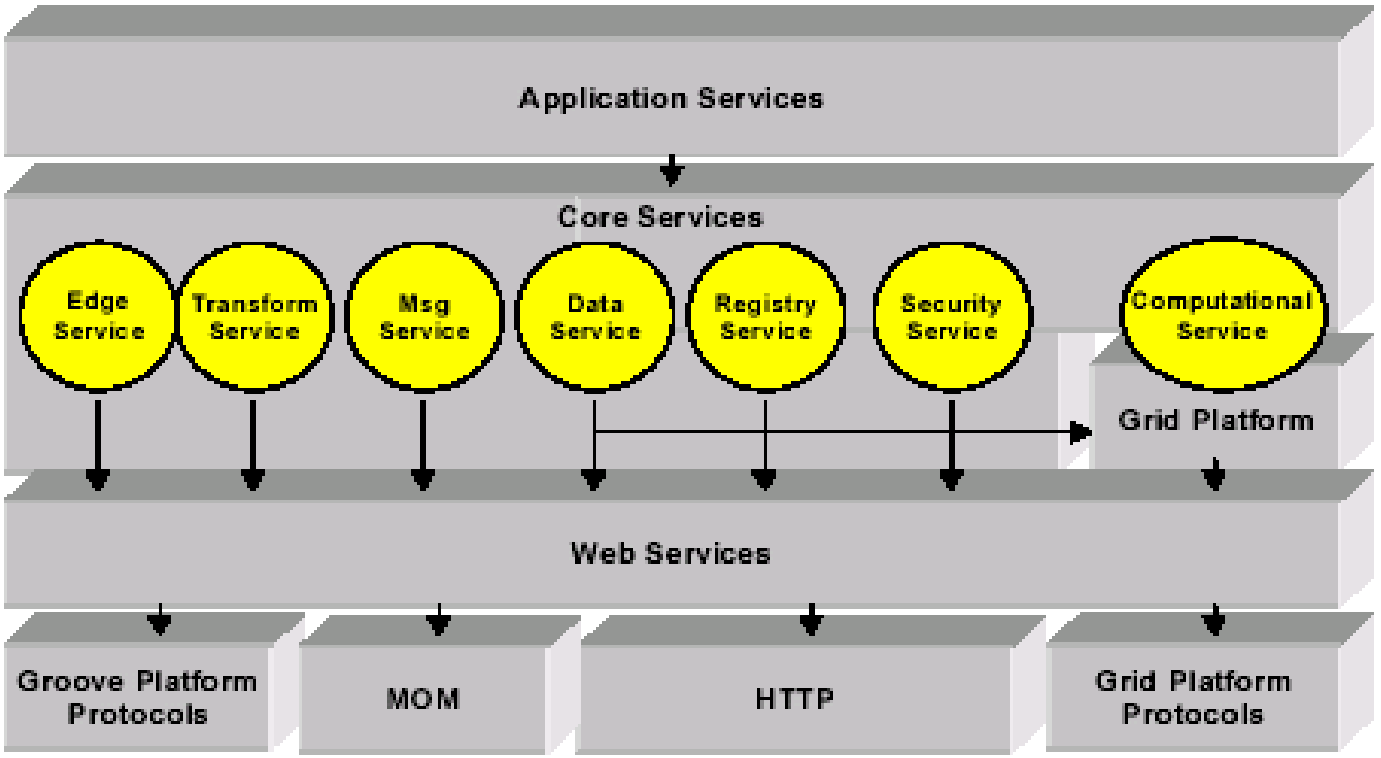

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Technology Breakthroughs Needed

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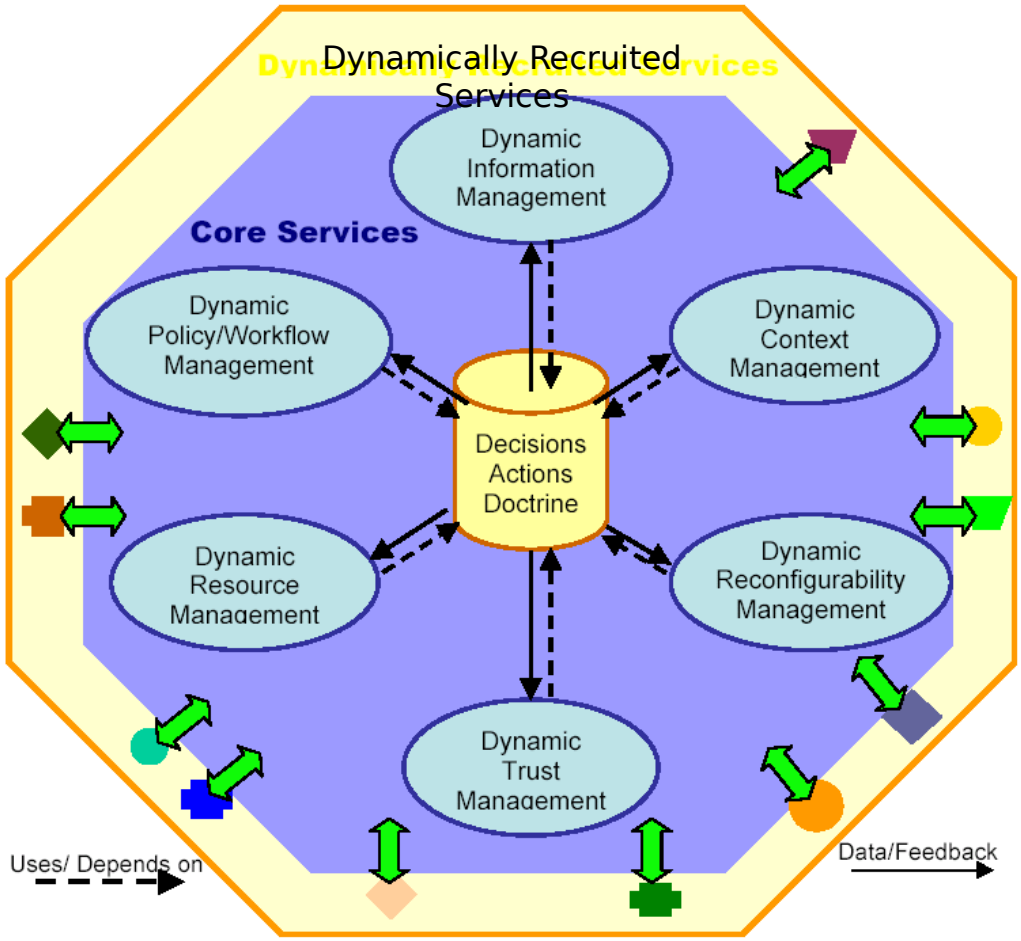
- Dynamic Information Management
- Dynamic Policy Management
- Dynamic Context Management
- Dynamic Trust Management
- Dynamic Resource Management
- Dynamic Reconfigurability



NCW CONOPS – How Might this Work?

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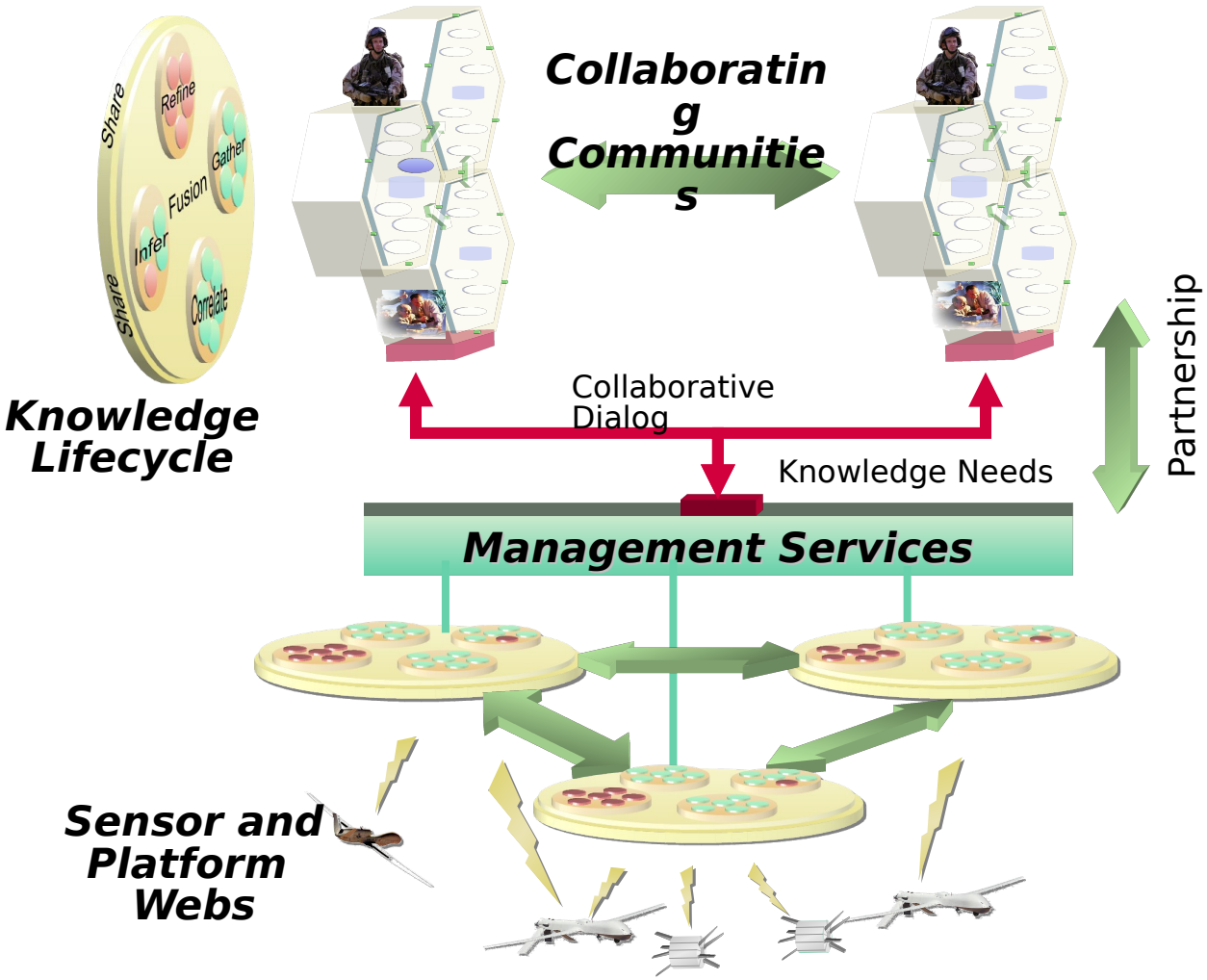

Knowledge Lifecycle

Sensor and Platform Webs

Convert observations into actionable, responsive knowledge

Enable users to dynamically form around knowledge production, leveraging shared expertise

Broker observations across peer groups of sensors and platforms

Optimize sensors and platforms to dynamically address observation tasks